Exhaust Air Temperature Control Set

Exhaust air control for performance-related air volume control

Applications:

For providing infinitely variable UV lamp output, the exhaust air volume required for the UV lamp must be in a direct relationship with the lamp output.
The exhaust control system regulates this exhaust air volume automatically. The complete set is designed in such a way that neither the installer or the operator needs to carry out any more measurements, parameterisation or programming work. This makes both the installation and the initial commissioning very easy and safe.

The complete set comprises:

- Temperature sensor PT 100, cable included
- Electronic controller (programmed and ready for connection) for front-panel mounting, 45 x 45 mm
- Throttle valve including mounting accessories
- Motorised throttle valve, DC 24 V
- 2 set point settings are possible (operation / stand-by)

The control is based on the measurement of the exhaust air temperature. The temperature is measured at or near the reflector unit and is transmitted to an electronic controller. This controller has been pre-programmed and only needs to be connected to the temperature sensor and to a 24 V DC power supply. The control variable resulting from this is transmitted to the motorised 24 V DC drive that adjusts a mechanical throttle valve. This results in a change in volume of the exhaust air. Therefore the exhaust air fan itself (not included in the exhaust air temperature control set) can always operate at full power and does not need to have a controller of its own. This eliminates the need for a frequency converter. Two set point settings are possible, e.g. the first for the temperature during operation and the second one for the stand-by phase. The second set point setting is activated by a dry contact.

Available versions:

Exhaust air control						
Article No.	A008745					
Diameter of the throttle	∅ 80	∅ 100	∅ 125	∅ 140	∅ 160	∅ 180
valve (variant)	Please specify the diameter when ordering.					
Power supply	DC 24 V					
Power consumption of drive and electronic controller	approx. 6 W					
Installation height (throttle and one adapter sleeve)	approx. 240 mm					
Protection class	IP 20 (box and terminal), IP65 front panel (with gasket)					
Weight controller	approx. 185 g					
Parameters controller	The controller is programmed with all parameters which cover typical cooling situations.					

Notes: Both the 24 VC power supply and the exhaust air fan are not included in delivery of the exhaust air temperature set. If ordered in combination with a reflector unit, the temperature sensor (PT100), the throttle valve and the motorised drive can be preassembled on request without extra charge.

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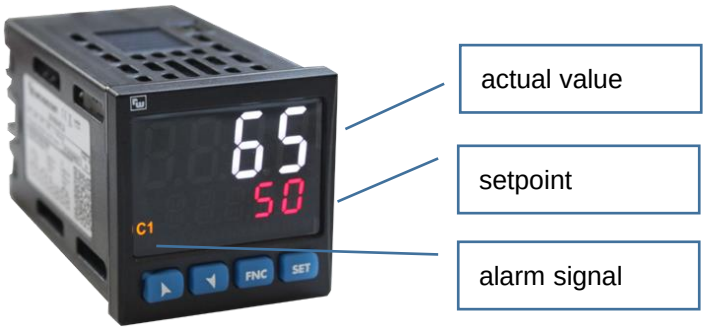
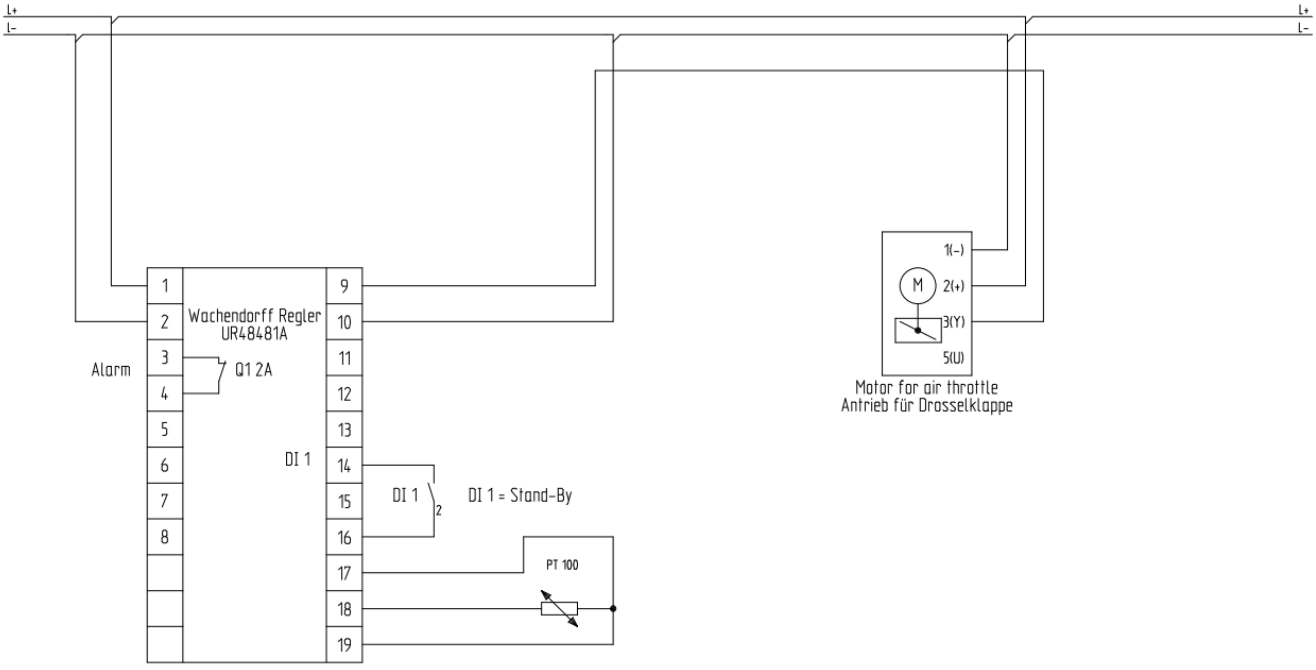
The pre-programming of the controller carried out at the factory is appropriate for the controlling of the air cooling for reflector units type Aachen, Köln, Ellwangen and Koblenz which have a built-in PT100 temperature sensor. If the PT 100 is to be installed in another position, the customer must arrange for the adaptation of the parameters (e.g. temperature switching points). This can be done via the buttons or via an Android app and NFC connection (for detailed information see separate instruction manual, please).

NFC

Display:



Circuit diagram:



Connections:

1, 2:	Supply DC 24 V (1: +, 2: -)
3, 4:	Relay output Q1: Fault alarm when exceeding the max. exhaust air temp., max. 230 V, 2A (resistive)
9:	Analog output (9: +, 10: -) for air throttle motor, DC 0…10 V
14, 16:	Digital input (DI 1): close the contact to indicate to the controller stand-by (Shutter closed)
17, 18, 19:	PT100; if 2-wire-PT100: bridge pin 17 and 19

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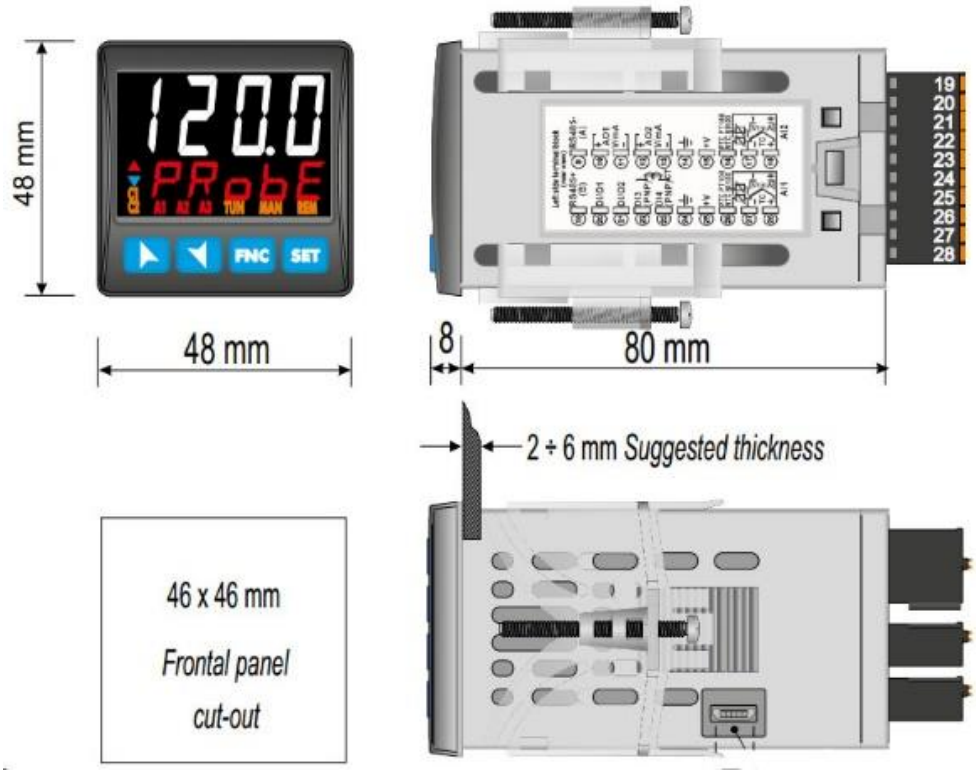
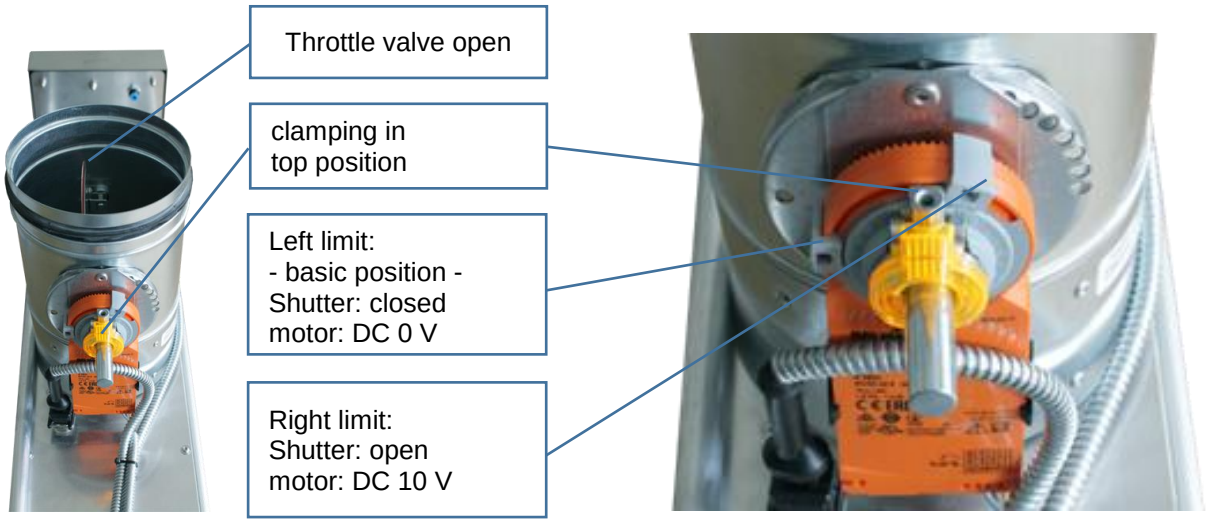
Dimensions and installation:



How to mount the motor on the throttle valve:



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Exchange of the controller T16 41110 (old controller) by a UR48481A (new controller):

An overview of the contact assignment of the new controller compared to the previous model is given in the table below (for example, if an older controller is to be replaced with the new version):

Art. no. Exhaust Air Temperature Control Set	**New set A008745**	**Old set A002927**
Art. no. / name controller (replacement)	A008718 / UR48481A	n.a. / T16 41110
Description	**Contact no.**	**Contakt no.**
Supply DC 24 V	1 (+), 2 (-)	11 (+), 12 (-)
Relay output (alarm) max. exhaust air temp. is exceeded	3, 4	2, 3 or 4, 5 (optionally programmed)
Analog output for motor of air throttle, DC 0…10 V (regulating variable Y)	9 (+), 10 (-)	6 (+), 7 (-)
Digital input (DI 1): Close contact to indicate to the controller stand-by	14 - 16	n.a.
PT100	17, 18, 19 2-wire PT100: bridge 17 and 19	8, 9, 10 2-wire-PT100: bridge 9 and 10

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